

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>10527-WO</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. <b>PCT/DK2004/000859</b>	International filing date (day/month/year) <b>10/12/2004</b>	(Earliest) Priority Date (day/month/year) <b>10/12/2003</b>
Applicant <b>NOVOZYMES A/S</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report
  - a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
    - The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
    - With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.
  - b.  Certain claims were found unsearchable (See Box II).
  - c.  Unity of invention is lacking (see Box III).
4. With regard to the title,
  - the text is approved as submitted by the applicant.
  - the text has been established by this Authority to read as follows:
5. With regard to the abstract,
  - the text is approved as submitted by the applicant.
  - the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6. With regard to the drawings,
  - a. the figure of the drawings to be published with the abstract is Figure No. \_\_\_\_\_
    - as suggested by the applicant.
    - as selected by this Authority, because the applicant failed to suggest a figure.
    - as selected by this Authority, because this figure better characterizes the invention.
  - b.  none of the figures is to be published with the abstract.

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**Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)**

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
  - a. type of material
    - a sequence listing
    - table(s) related to the sequence listing
  - b. format of material
    - in written format
    - in computer readable form
  - c. time of filing/furnishing
    - contained in the international application as filed
    - filed together with the international application in computer readable form
    - furnished subsequently to this Authority for the purpose of search
2.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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International Application No

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**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 C12N15/31 C12N15/75 C12N1/21 C07K14/32 C12P21/02  
 C12N9/28 C12N15/56  
 //((C12N1/21,C12R1:07))

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K C12P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, EMBL

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/04007 A (GENENCOR INTERNATIONAL, INC; GENENCOR INTERNATIONAL B.V; QUAX, WILHELM) 28 January 1999 (1999-01-28) the whole document	1-6, 12-26
X	WO 94/19471 A (THE FINNISH NATIONAL PUBLIC HEALTH INSTITUTE; KONTINEN, VESA; SARVAS,) 1 September 1994 (1994-09-01) the whole document	1-6, 12-26

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

\*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

\*Z\* document member of the same patent family

Date of the actual completion of the International search	Date of mailing of the International search report
14 March 2005	01/04/2005
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016	Authorized officer  Huse, I

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International Application No

PCT/DK2004/000859

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHEN L ET AL: "Bacillus subtilis MrgA is a Dps(PexB) homologue: evidence for metalloregulation of an oxidative-stress gene." MOLECULAR MICROBIOLOGY. OCT 1995, vol. 18, no. 2, October 1995 (1995-10), pages 295-300, XP002319117 ISSN: 0950-382X abstract page 299, left-hand column, paragraph 3	1-5,7-11
A	VAN WELY K H ET AL: "The carboxyl terminus of the Bacillus subtilis SecA is dispensable for protein secretion and viability." MICROBIOLOGY (READING, ENGLAND) OCT 2000, vol. 146 ( Pt 10), October 2000 (2000-10), pages 2573-2581, XP002319104 ISSN: 1350-0872 cited in the application abstract page 2578, left-hand column	1-26
A	DATABASE EMBL 8 September 1993 (1993-09-08), CHEN L. ET AL.: "Bacillus subtilis MrgA (mrgA) gene, complete cds and orf, partial cds." XP002319105 Database accession no. L19547 the whole document	1-26

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/DK2004/000859

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
WO 9904007	A 28-01-1999		AU 8493198 A CA 2296689 A1 EP 1003873 A1 JP 2001510047 T WO 9904007 A1 US 6258563 B1 US 2002006641 A1	10-02-1999 28-01-1999 31-05-2000 31-07-2001 28-01-1999 10-07-2001 17-01-2002
WO 9419471	A 01-09-1994		AU 6142694 A CA 2156425 A1 CN 1120853 A ,C EP 0686195 A1 FI 954010 A WO 9419471 A1 JP 8507207 T JP 2004350691 A US 5780261 A	14-09-1994 01-09-1994 17-04-1996 13-12-1995 25-10-1995 01-09-1994 06-08-1996 16-12-2004 14-07-1998